Exhibit 36

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

WESLEY WON, et al. Plaintiffs, v. GENERAL MOTORS, LLC, Defendant.	Civil Action No. 2:19-cv-11044

Expert Report of Lorin M. Hitt, Ph.D.

December 10, 2021

would adjust in the but-for world where the alleged defect has been disclosed by GM," which, in Mr. Eichmann's opinion, represents "the amount by which Class Members were overcharged at the point of purchase."[17]

- "Cost of repair" damages of "at least $1.25 billion ($1,559 per vehicle)."[18] Mr. Eichmann identified "two issues with the defective transmission: (i) shudder, and (ii) harsh shifting, jerking, surging, and overall poor drive quality."[19] He thus claims that each putative Class Vehicle requires two respective repairs: "a triple flush and replacement of the automatic transmission fluid" and "replacement of the valve body system and wire harness."[20]

III. Assignment

16. I have been asked by counsel for GM to evaluate the damages approaches put forth by Mr. Eichmann and whether those approaches are capable of determining impact and quantifying the economic harm, on a Class-wide basis, due to the alleged transmission issues.

17. As part of my assignment, I have reviewed academic literature, industry research, public press, third-party data, and other relevant publicly available documents, as well as other documents produced in this litigation. Appendix C lists the materials I have relied upon in forming my opinions in this matter.

18. I have also relied upon my education as well as my professional experience and expertise, obtained over many years as an academic economist.

19. I am being compensated in this matter at my usual rate of $1,050 per hour. I am being assisted in this matter by staff at Cornerstone Research who are working at my direction. I receive compensation from Cornerstone Research based on its collected staff billings for its support of me in this matter. Neither my compensation in this matter nor my compensation from Cornerstone Research is in any way contingent on the content of my opinion or the outcome of this or any other matter.

20. My work in this matter is ongoing and I reserve the right to update, supplement or amend my opinions if I receive information that warrants such a supplement or amendment.

IV. Summary of Opinions

21. A summary of my main findings is as follows.

[17] Eichmann Report, ¶¶ 37, 44.
[18] Eichmann Report, Section V.
[19] Eichmann Report, ¶ 5.
[20] Eichmann Report, ¶¶ 53, 57.

- **Mr. Eichmann's damages approaches are duplicative and assume a uniform impact despite significant heterogeneity across Class Vehicles and putative Class members.** Putting aside all other flaws with Mr. Eichmann's damages approaches, at most, putative Class members would be entitled to the lowest amount of damages determined across his three methods. In addition, for each method, he simply assumes that each putative Class member would receive the average damages calculated either for all Class Vehicles or by Relevant MMY despite the fact that the large variation in supply and demand factors and the structure of the automobile market demonstrates that it is incorrect to assume that there would be uniform impact and that all putative Class members would incur the same damages amount.
- **Mr. Eichmann's "diminution in value" method based on his hedonic regression analysis is fundamentally flawed.** Mr. Eichmann's regression suffers from multiple implementation issues, including failing to control for important variables that impact vehicle prices (such as the type of transmission) and assuming that the economic relationship between price and product characteristics, including whether the product has an at-issue transmission, is the same for all Relevant MMYs. Just correcting Mr. Eichmann's regression to estimate a separate diminution in value for each Relevant MMY, and to compare each Relevant MMY to benchmark vehicles from the same sub-segment and model year significantly changes his results. With the corrections, I find that the alleged transmission defects have no impact, or even a positive impact, on the resale value for certain Relevant MMYs, and that his regression fails to estimate any impact for other Relevant MMYs. Mr. Eichmann's hedonic regression also estimates diminution in value even when it should not. In particular, his regression estimates diminution in value for certain GM vehicles that he classified as being Class Vehicles but in fact either do not or rarely contain an at-issue transmission according to GM sales data. Mr. Eichmann's diminution in value analysis is ultimately unreliable for determining damages for any putative Class member. My own analysis shows that the Relevant MMYs do not systematically depreciate more than benchmark vehicles from the same sub-segment and the same model year, contradicting Mr. Eichmann's hedonic regression analysis and refuting Plaintiffs' assumption that Class Vehicles suffered from uniform diminution in value due to the alleged transmission defects.

- **Mr. Eichmann's "market simulation" contains a fatal error, generates nonsensical results, and is fundamentally flawed.** Mr. Eichmann's "market simulation" is fundamentally flawed as it contains a fatal coding error which renders all of his simulation results incorrect. When this error is corrected, the results of his simulation change substantially and generate unrealistic estimates that are contrary to market data and to basic principles of economics—for example, his simulation predicts that GM earns over 100 percent gross margin for the majority of its products. Mr. Eichmann's market simulation contains several other conceptual deficiencies that render it wholly unreliable. For example, his simulation fails to adequately reflect the realities of the automobile market, as it assumes a single uniform price for each Relevant MMY (while, in reality, vehicle prices vary substantially), and it inappropriately relies on data on consumer preferences elicited during the Covid-19 pandemic to attempt to simulate a pre-pandemic market. Furthermore, his simulation is unreliable as it substantially deviates from and is inconsistent with the methodologies of the prior academic literature.
- **Mr. Eichmann's "cost of repair" damages approach is fundamentally flawed and generates an unreliable measure of Class-wide damages.** Mr. Eichmann cannot determine whether each putative Class member actually paid or will be expected to pay anything to repair the alleged transmission issues. He has not established that all putative Class members experienced the alleged issues and needed or will need any repairs. For example, evidence shows that the alleged transmission issues manifest at different rate in different geographic locations and for different vehicle models. Moreover, Mr. Eichmann does not discuss whether any putative Class member who did experience the alleged defects, and did get their Vehicle repaired, ever had to pay out of pocket for such repairs. He presents no method to determine which putative Class members did pay out of pocket or would be expected to do so in the future. Finally, contrary to Mr. Eichmann's assumption, out of pocket repair costs would differ not only across putative Class members, but even across those who owned the same model and model year vehicle. Assuming that putative Class members all suffered the same average damages due to cost of repair is therefore incorrect.
- **Mr. Eichmann damages methods assume a uniform impact across all putative Class members despite the fact that Class Vehicles face different**

supply and demand conditions and that putative Class members obtained these vehicles under different circumstances. Automobiles are a classic example of differentiated products, that is, products that have a wide variety of attributes intended to appeal to consumers with different tastes and preferences. The putative Class Vehicles represent nearly 50 model and model year combinations with thousands of available variations and options. These differentiated products experience significant differences in supply and demand factors that result in variation in their market prices. In addition, putative Class members vary in how they acquired a Class Vehicle, including whether they negotiated with the seller to receive a discount or incentive and whether they had knowledge of the alleged transmission defects.

- **Mr. Eichmann's assumption of a uniform impact is contradicted by significant variation in prices for Class Vehicles.** All of the individualized factors associated with a putative Class member's purchase of a Class Vehicle leads to significant variation in how much a buyer pays for a vehicle. For example, my analysis of GM data and of market data shows that there is wide variation in invoice prices and in prices of used vehicles even for vehicles of the same model and model year ("MMY") and with other observable characteristics in common. Mr. Eichmann has not done any analysis of how individualized factors affect whether a putative Class member was in fact impacted by the alleged transmission issues or the extent of damages for that putative Class members. Instead, he incorrectly assumes away these individualized factors by assuming that all putative Class members were impacted in the same way and suffered damages for the same amount due the alleged transmission issues. Ultimately, Mr. Eichmann has not presented a Class-wide method to determine impact or damages that accounts for differences across putative Class members, and individualized inquiry will be required to determine whether any putative Class member was impacted and harmed.

diminution in value,[85] which is again higher than the estimate he provides for all putative Class Vehicles. These are nonsensical results, highlighting that Mr. Eichmann's regression model suffers from fundamental flaws that make it unable to reliably calculate "diminution in value" for vehicles with the at-issue transmission.[86]

3. Analysis of Transaction Data Shows that At-Issue Vehicles Do Not Systematically Depreciate More Quickly than Benchmark Vehicles, Contradicting Plaintiffs' Claims That There Is Evidence of Class-wide Impact

62. If Plaintiffs' claims that putative class members overpaid for their vehicles and suffered from diminished resale value is correct, I would expect to see more price depreciation among the Relevant MMYs compared to benchmark vehicles. In this section, I provide evidence based on the AuctionNet data that Relevant MMYs do not systematically depreciate faster than benchmark vehicles, directly contradicting Mr. Eichmann's theory.[87] In particular, I show that for certain Relevant MMYs with a high proportion of vehicles that are equipped with the at-issue transmissions, the Relevant MMYs depreciate at a similar or even slower rate in value compared to benchmark vehicles. My analysis demonstrates that there is no evidence of a Class-wide damage (if any) that can be applied to all Class Vehicles.

63. To analyze the relative price depreciation paths of the Relevant MMYs to benchmark vehicles over the life cycle of vehicles, I utilize the same AuctionNet data that Mr. Eichmann used in his hedonic regression analysis. The AuctionNet data only cover auction sales (i.e., wholesale transactions) of used vehicles in the U.S., and do not reflect any payments consumers would receive if selling their vehicles in a private sale or when trading in their vehicles to a dealer.[88] Even using the AuctionNet data that Mr. Eichmann used, which only measure prices paid at auction rather than prices paid by consumers, I find no evidence that there is uniform excessive depreciation among the Relevant MMYs (if any) caused by the alleged transmission defects.

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[85] See my work papers.

[86] Since all vehicles without the allegedly defective transmission would be expected to have $0 diminution-in-value, the (at most) 10 percent of vehicles included in Panel B of Exhibit 4 that do have the at-issue transmission based on the GM sales data would have to experience a diminution-in-value of (more than) $18,000 ($2,026×9=$18,234) to generate an average diminution in value of $2,026 across the (at least) 90 percent of "at-issue" vehicles for the Relevant MMYs and engine types that Mr. Eichmann identified.

[87] While these analyses provide evidence that contradicts Mr. Eichmann's conclusion that Class Vehicles suffered excessive diminution in value compared to benchmark vehicles, I am not proposing that these analyses can be used to calculate damages for putative Class members. In particular, my analyses only consider averages; a proper methodology for estimating damages would need to account for differences across Class Vehicles and across putative Class members that would affect whether an individual putative Class member is impacted and, if so, the amount of damages.

[88] "The Industry's Most Robust Wholesale Market Data Set," *J.D. Power*, https://www.jdpowervalues.com/auctionnet-raw-data-files.

64. Specifically, I compare each Relevant MMY to a set of benchmark vehicles in the same sub-segment and for the same model year. I exclude from the benchmark vehicles all other Relevant MMYs in the same sub-segment that are not the specific model that I analyze. I identify the sub-segment of each Relevant MMY based on the AuctionNet data, which contain the NADA market sub-segment for each vehicle.[89]

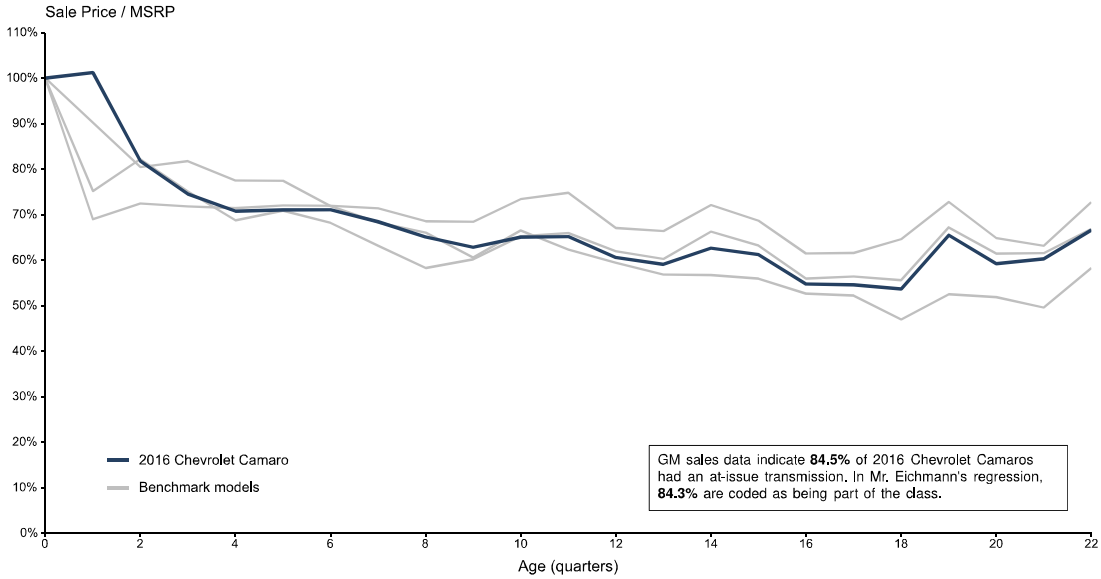
65. My analysis reveals that there is no evidence that the putative Class Vehicles systematically depreciated more quickly over the life cycle relative to benchmark vehicles. For example, in Figure 1below, I plot the average used transaction price for the 2016 Chevrolet Camaro relative to the vehicle's MSRP based on the number of quarters since the vehicle's launch (solid navy blue line).[90] I select the 2016 Chevrolet Camaro as an example because the 2016 Chevrolet Camaro is one of the most popular Relevant MMYs in the AuctionNet data and also has a high proportion of vehicles with at-issue transmissions.[91] As is common, the resale value retained declines over time. I then plot the average used transaction price relative to MSRP for each benchmark model in the "midsize sporty car" sub-segment in grey. The line for the 2016 Chevrolet Camaro is close to the line for all benchmark vehicles and follows a similarly downward trend, indicating that the 2016 Chevrolet Camaro depreciated at a similar rate as the benchmark vehicles. Moreover, the grey lines for specific benchmark models show that, while some benchmark models depreciated more slowly than the 2016 Chevrolet Camaro, some benchmark models depreciated at a faster rate, as would be expected in any market.

[89] Mr. Eichmann similarly uses the NADA sub-segment in the AuctionNet data in his hedonic regression analysis. See Eichmann Report, footnote 200.

[90] I do not have information on when a particular vehicle was manufactured or when a given model and model year was first sold, so I measure the number of quarters since launch relative to January 1 of the vehicle's model year.

[91] GM sales data indicate that 84.5 percent of the 2016 Chevrolet Camaros have an at-issue transmission. Two other Relevant Models, Chevrolet Silverado and GMC Sierra, have a higher number of transactions in the AuctionNet data; however, both of them have a much smaller proportion of vehicles that are equipped with at-issue transmissions. See Exhibit 2 and Exhibit 3.

Figure 1. Retained Value of 2016 Chevrolet Camaro Relative to Benchmark Vehicles in the Same NADA Sub-segment and Model Year



Source: Eichmann Report and Backup Materials; GM000858597; Hitt-0002
Note: Retained value is calculated as the average of the resale price to MSRP ratio for vehicle sales of a given model with a given age. Age is calculated assuming that each vehicle was produced on January 1 of its model year, consistent with Mr. Eichmann's methodology, then binned in quarters. Negative and zero ages are excluded. "Benchmark models" are vehicles of other models of the same model year within the same sub-segment (midsize sporty car) as the indicated model, excluding all other Relevant Models within that model year. Benchmark models include the 2016 Dodge Challenger, the 2016 Ford Mustang, and the 2016 Hyundai Genesis. Sales with manual transmissions, region "Caribbean," or sale type "Salvage" are excluded. After these exclusions, extreme outliers are identified and excluded using the method described in Mr. Eichmann's backup.

66. I find generally similar results for other Relevant MMYs. See Exhibit 5.[92] There is no evidence that GM vehicles with at-issue transmissions *systematically* depreciate in value more quickly than benchmark vehicles. Instead, there is a mix of depreciation rates for the Relevant MMYs compared to the benchmark vehicles, with each Relevant MMY depreciating slower than some benchmark vehicles and faster than other benchmark vehicles. This directly contradicts Plaintiffs' assertion that all putative Class members overpaid for their vehicles at purchase or experienced a diminution in vehicle value due to the alleged transmission defect.

67. One challenge with comparing depreciation of at-issue vehicles compared to benchmark vehicles is that not all vehicles of a particular Relevant MMY are equipped with the at-issue transmission. If the proportion of vehicles for a given Relevant MMY equipped with the at-issue transmission is small, then the average depreciation path for the Relevant MMYs in Exhibit 5 may reflect mostly vehicles without the at-issue transmission. To

[92] These exhibits are presented in ascending order of the proportion of vehicles for each Relevant MMY with an at-issue transmission, as indicated by GM sales data.

address this concern, I calculate the proportion of vehicles for each Relevant MMY that contains the allegedly defective transmission based on GM data.[93] The share of vehicles with the at-issue transmission varies from 2.8 percent for the 2015 Chevrolet Silverado to 100 percent for the 2016 Cadillac CT6, the 2016 Cadillac Escalade, and the 2016 Cadillac Escalade ESV. I also report these percentages in a text box for each chart in Exhibit 5. Even for MMYs with a relatively high proportion of vehicles containing the at-issue transmission, I find that the at-issue GM vehicles do not depreciate more than benchmark vehicles in general. For certain Relevant MMYs with a high proportion of vehicles with at-issue transmissions, such as the 2015–2017 Chevrolet Corvette, I even find that the depreciation rates for the Relevant MMYs are slower than those of the benchmark vehicles later in the life cycle.[94] Hence, even for the Relevant MMYs most likely to come equipped with the allegedly defective transmission, I find no evidence that the vehicles systematically depreciate in value more quickly than benchmark vehicles, in contradiction to Plaintiffs' theory.[95]

VII. Mr. Eichmann's "Market Simulation" Is Fundamentally Flawed and Cannot Provide Reliable Estimates of the Alleged Overcharge

68. Mr. Eichmann proposes a so-called "market simulation" to "evaluate the amount by which Class Members were overcharged at the point of purchase."[96] The simulation purports to calculate the difference, if any, between two sets of prices: those of new Relevant MMYs in the "actual" world and those that would allegedly exist for otherwise identical vehicles in a "but-for" world where the alleged transmissions defect is known.[97] At his deposition, Mr.

[93] See Exhibit 2.
[94] See Exhibits 5.24, 5.31, and 5.32.
[95] I also conduct a statistical test to assess whether at-issue vehicles depreciated more quickly than benchmark vehicles as of each quarter since launch. Specifically, I assess whether it is more likely to observe a lower retained value of the Relevant MMYs if they have a higher proportion of vehicles with at-issue transmissions. Details of the analysis methodology and results are discussed in Appendix E. I find that while in general the Relevant MMYs retain less value over time compared to benchmark vehicles (which could be that these MMYs generally retain less value over time compared to benchmarks, independent of the alleged transmission defects), the Relevant MMYs that contain a higher share of vehicles with at-issue transmissions do not consistently retain less value for more quarters. This shows that the alleged transmission defects are not the main driver of the differential rates of price depreciation between the Relevant MMYs and benchmark vehicles.
[96] Eichmann Report, ¶¶ 40, 44.
[97] Eichmann Report, ¶¶ 40, 43. I understand that Plaintiffs seek to certify a class containing all purchasers and lessees of new and used vehicles (see Complaint, ¶ 2). However, Mr. Eichmann's simulation does not and cannot estimate the alleged overcharge (if any) for used or leased Class Vehicles, or vehicles purchased for non-personal [*i.e.,* business / fleet] use, as it relies upon demand estimates from Dr. Iyengar's survey that only measured consumers' preference for new vehicle purchases and relied upon a sample of consumers who purchased similar vehicles for personal or household use (see Expert Report of Samantha Iyengar, October 9, 2021 ("Iyengar Report"), ¶37, Appendix 3a, and Appendix 3b). Additionally, his MSRP and market share data that only reflects new vehicle sales. As discussed in Section IX.B.2., used vehicle sales and new vehicle leases take place under very different circumstances than new vehicle sales and entail different considerations on both the demand and supply sides of the market. As such, Mr. Eichmann's simulation cannot provide reliable estimates for any alleged overcharges applicable to used or leased vehicles.

45,000 miles for the 2016 Chevrolet Colorado,[187] 2017 Cadillac Escalade,[188] 2017 Chevrolet Corvette,[189] and 2017 GMC Yukon.[190] Thus, many owners of putative Class Vehicles would be replacing transmission fluid before the end of the warranty period whether they experience the alleged shudder issue or not.[191] Further, I understand that if the fluid is replaced with the Mod1a fluid, the alleged shudder problem should be fixed[192] at no incremental cost. Hence, Mr. Eichmann's assumption that the First Repair caused out-of-pocket expenses for all putative Class members is unsupported and in fact contradicted by the record.

C. Mr. Eichmann Ignores that Out-of-Pocket Repair Costs Vary across Putative Class Members

123. Even if a putative Class Vehicle needed a repair, and the repair was not covered by GM's warranty, Mr. Eichmann has not shown that the single average estimate for repair costs he uses for his main analysis ($309 for the shudder issue and $1,250 for the shift quality issue) is the cost that would be paid out of pocket by every owner of putative Class Vehicle who decided to obtain relevant repairs. Furthermore, the cost would not be the same for every owner of the same model and model year of putative Class Vehicles, as Mr. Eichmann assumes in his sensitivity analysis. Relevant repairs, and their costs, differ not only across putative Class Vehicles of different models and model years, but also across putative Class Vehicles of the same MMY.

124. First, GM-authorized dealers may be able to fix different putative Class Vehicles exhibiting the alleged transmission issues using different repairs (and therefore, at different costs). The choice of repair may depend on the vehicle, how the issue manifests, a particular dealership's prior experience, availability of parts and equipment, and other factors. For

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[187] "Maintenance Schedule for Your 2016 Chevrolet Colorado," *GM*, https://my.gm.com/content/dam/gmownercenter/gmna/dynamic/manuals/2016/Chevrolet/Colorado/2016%20Chevrolet%20Colorado.pdf.

[188] "Maintenance Schedule for Your 2017 Cadillac Escalade," *Cadillac*, https://my.cadillac.com/content/dam/gmownercenter/gmna/dynamic/manuals/2017/Cadillac/Escalade/Maintenance%20Schedule.pdf.

[189] "Maintenance Schedule for Your 2017 Chevrolet Corvette," *Chevrolet*, https://my.chevrolet.com/content/dam/gmownercenter/gmna/dynamic/manuals/2017/Chevrolet/Corvette/Maintenance%20Schedule.pdf.

[190] "Maintenance Schedule for Your 2017 GMC Yukon," *GMC*, https://my.gmc.com/content/dam/gmownercenter/gmna/dynamic/manuals/2017/GMC/Yukon/Maintenance%20Schedule.pdf.

[191] Average American driver is estimated to drive over 1,000 miles per month, which means that the 45,000 mile mark would be reached within the first five years during which the standard warranty is active. See, e.g., "Average Miles Driven Per Year by Americans," *Metromile*, September 13, 2021, https://www.metromile.com/blog/average-miles-driven-per-year-by-americans/.

[192] Eichmann Deposition, 202:21–203:1 ("Q. Okay. But, but what GM has provided, you say in your report that your understanding is if GM provides the valve body replacement and the Mod 1A triple flush, they have repaired the alleged transmission defects, correct? A. Yes."); Keenan Deposition, 38:2–6 ("A. Mod1A was developed to mitigate shudder. Q. And have you reviewed any material that identifies if Mod1A was successful in doing so? A. I believe I have reviewed material that showed Mod1A was successful.").

example, Mr. Eichmann describes two different proposed repairs for the shift quality issue depending on the model year: "replacing the valve body and wire harness" for model year 2018–2019 vehicles, and "replacing a vehicle's transmission and modifying the wire harness, as well as the transmission control module" for model year 2015–2017 vehicles.[193] Mr. Eichmann states that neither of these proposed repairs was actually implemented on the Class Vehicles,[194] but does not cite any alternative repair that has been performed. Despite this, in his main analysis, he applies an estimated cost of a proposed repair that was never actually implemented to all putative Class Vehicles.

125. Second, even if one standard repair package was recommended for all putative Class Vehicles (or at least all putative Class Vehicles of the same model year) brought in for the alleged issues, the direct cost of conducting such repairs would still likely vary depending on the repair shop and hence vary even across Vehicles of the same MMY. For example, as of January 2017, labor rates varied between $47 and $215 per hour within the AAA Approved Auto Repair network.[195] Prices for necessary parts may also differ across different vendors used by different dealers as well as over time. By using the same cost of repair estimate for all Class Vehicles, Mr. Eichmann ignores all these possible sources of variation in the cost of repairs across even putative Class Vehicles of the same MMY, let alone across putative Class Vehicles of different models and model years.

126. Indeed, the large variation in the cost of the First Repair is evident in the warranty data Mr. Eichmann uses to derive his single average cost estimate. Specifically, across all Relevant MMYs found in the warranty data, the cost of this Repair varied from $0 to $3,512.05.[196] The cost of this Repair also varied among the Named Plaintiffs whose repairs can be found in the warranty data using Mr. Eichmann's methodology for identifying First Repair claims, as shown in Figure 5. In fact, as illustrated in Exhibit 8, the cost of this Repair can vary widely even for vehicles of the same make, model, and model year that were all repaired in the same state (*e.g.*, Texas).

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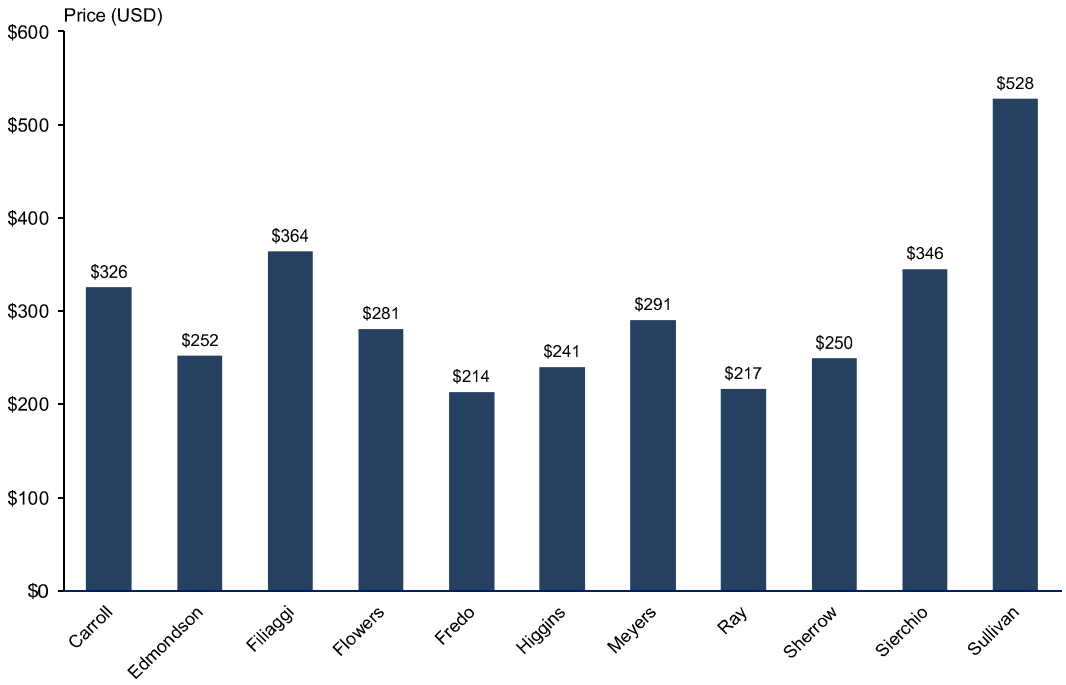
[193] Eichmann Report, ¶ 56.
[194] Eichmann Report, ¶ 10.
[195] "Auto Repair Labor Rates Explained," *AAA*, January 2017, https://www.aaa.com/autorepair/articles/auto-repair-labor-rates-explained. The United States Bureau of Labor Statistics also reports similarly wide variation in hourly wages for auto repairers. See "Occupational Employment and Wages: 49-3023 Automotive Service Technicians and Mechanics," *U.S. Bureau of Labor Statistics,* May 2020, https://www.bls.gov/oes/current/oes493023.htm.
[196] GM000861906 and GM000861907 filtered for job repair date after February 28, 2019, claim service labor code #8480818 and causal part #19417577, per Eichmann Report, footnote 147.

Figure 5. First Repair Cost of Named Plaintiffs' Vehicles



Source: GM000861906; GM000861907; Exhibit 7
Note: Data filtered for job repair date after February 28, 2019, claim service labor code #8480818, and causal part #19417577, per Eichmann Report, footnote 147. In the warranty data, Plaintiff Meyers has two First Repair claims, on March 1, 2019 and March 27, 2019, with the same cost.

127. Mr. Eichmann's methodology for estimating the cost of the Second Repair is even more unreliable than his methodology for the First Repair. Specifically, Mr. Eichmann relies on a page from a GM presentation which contains an estimate of a "proposed" "potential" repair that—according to Mr. Eichmann himself—was never used on any putative Class Vehicle.[197] The same page Mr. Eichmann cites includes a note that the proposal excludes some putative Class Vehicle models (Corvette, Camaro, and Cadillac),[198] and it provides no information on whether this proposal would be applicable to all other putative Class Vehicle models and model years. In other words, Mr. Eichmann's cost estimate for the Second Repair is not based on any actual data regarding how much *any* consumer paid to fix the

[197] Eichmann Report, ¶ 10. I understand that GM has not identified an effective repair for the alleged shifting issues; instead any such issues were remedied through redesign which cannot be retrofitted into earlier model year vehicles. See "Root Cause - PRD PRTS 2075283," Plaintiffs' Exhibit 153, p. 20) ("[I]ncremental fixes both hardware and calibration were introduced between MY16–MY20 to improve warranty and customer satisfaction. Ultimately, some of the issues could not be resolved without a major redesign of the transmission, which was approved in early 2018 (8RWD Gen 2."); Keenan Deposition, 233:4–23 ("Q. Was there ever any consideration regarding retrofitting model year '15 through '19 vehicles with changes that were made in '20 and '21 to improve the IPTV of the 8L transmissions? A. My recollection … there was a study of would it be feasible to move that backwards to any of the prior model years. … Q. Okay. The decision was made not to provide that remedy to the earlier -- the customers with the earlier model year 8L transmissions? A. That's right."), 234:10–15 ("[The] amount of effort in terms of people, vehicles, time to execute was a large reason why we could not handle the workload going backwards. That's one reason. The second part is the TCMs, the software, and the controllers were not compatible with those vehicles.").
[198] GM000891280–303 at 301.

alleged shift quality issues. Instead, Mr. Eichmann relies on this single cost proposal and ignores the evidence, as discussed earlier, that the costs of any type of repair can vary not only across vehicles of different MMYs but also across vehicles within the same MMY.

128. In summary, Mr. Eichmann presents no Class-wide method to determine which putative Class members incurred or are expected to incur out-of-pocket costs for repair of their putative Class Vehicles. Therefore, Mr. Eichmann cannot conclude that each putative Class member was impacted or damaged due to out-of-pocket repair costs resulting from the alleged transmission issues. In fact, no such Class-wide method exists and instead individualized inquiry is necessary to determine whether each putative Class member experienced the alleged issues, whether he or she brought the vehicle for repairs or would need to do so in the future, what any such repairs would cost depending on the individual's warranty, and whether those repairs would be done as part of a regular maintenance unrelated to the alleged transmission issues.

IX. Differentiated Putative Class Vehicles and Heterogeneous Consumer Purchase Decisions Belie any Assumption of Class-wide Impact from the Alleged Transmission Issues

129. Beyond the specific flaws with each of Mr. Eichmann's three damages approaches, his damages analyses all make a fundamental flaw in assuming a uniform impact of the alleged transmissions issues on putative Class members.

130. In his damages analyses, Mr. Eichmann fails to consider that putative Class Vehicles are heterogeneous products. Without any empirical support, he treats putative Class Vehicles as if they are a single homogenous product transacting in the same market (or in the case of his "price premium" damages analysis, he treats all vehicles for a Relevant MMY as being a homogenous product transacting in markets based on the vehicles' segments), facing identical supply and demand conditions.[199] Thus, he implies that damages for each putative Class Vehicle equal either the average damages for a given MMY") (his "price premium" approach) or the average damages for all putative Class Vehicles across all models and model years (his main "cost of repair" approach and his "diminution in value" approach).

131. Mr. Eichmann offers no support for his assumption that all putative Class Vehicles (at least within the same MMY) incurred the same alleged overcharge, had the same costs of repair, and depreciated by the same amount over time. As I discuss in more detail below, this

[199] See, e.g., Eichmann Report, ¶¶ 53, 57, 69. As I discuss in Section VIII, Mr. Eichmann presents a sensitivity analysis of his "cost of repair" damages where he calculates different "cost of repair" damages for Class Vehicles of different MMYs, but the same "cost of repair" damages for all Class Vehicles of a given MMY. See, e.g., Eichmann Report, ¶¶ 51, 54.

assumption is contradicted by the case record for the Named Plaintiffs, the academic literature, and the transaction data used by Mr. Eichmann himself.

A. The Putative Class Vehicles Are Differentiated Products that Represent Nearly 50 Model and Model Year Combinations with Numerous Available Variations and Options, So There Cannot Be an Assumption of Uniform Impact

132. Mr. Eichmann's assumption that all putative Class Vehicles (or at least putative Class Vehicles of the same MMY) incurred uniform economic harm due to the alleged misconduct ignores basic economic theory. Putative Class Vehicles—and automobiles in general—are a classic example of what economists call differentiated products.[200] A differentiated product is one that has a wide variety of attributes (or "features") intended to appeal to consumers with different tastes and preferences.[201] Therefore, unlike homogenous products whose price is determined by the intersection of the same supply and demand conditions, differentiated products experience variation in supply and demand that can result in variation in their market prices.[202] As a result of such differences in the demand and supply conditions across transactions, any disclosure about the alleged transmission issues in the putative Class Vehicles cannot be assumed to have a uniform impact on all putative Class members.

133. Mr. Eichmann himself recognizes the variation exhibited by putative Class Vehicles. Specifically, Mr. Eichmann classifies putative Class Vehicles into seven different segments of passenger vehicles based on the market segments used in GM internal documents: large and midsize pickups, large and large luxury SUVs, sport cars and luxury sport cars, and midsize luxury vehicles.[203]

134. Mr. Eichmann also recognizes that putative Class Vehicles are further differentiated based on their model and model year, comprising 12 different models and 44 different model and model year combinations, as listed in Section II.

135. However, Mr. Eichmann ignores that vehicles within a single model or even within a single MMY can be highly customized through a number of different options and packages related to appearance, performance, entertainment features, and other aspects of the vehicle. Exhibit 9 shows the variation in certain characteristics within each Relevant MMY that is recorded in the AuctionNet data Mr. Eichmann used in his hedonic regression analysis: (a) different body types (*e.g.*, sedan, coupe, convertible, utility, regular cab, or extended cab); (b)

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[200] See, for example, Berry, Levinsohn, and Pakes (2004), pp. 69–70.
[201] For a discussion of differentiated products, see Tirole, J. (1988), "Product Differentiation: Price Competition and Non-Price Competition," in *The Theory of Industrial Organization*, Cambridge, MA: The MIT Press, 277–304.
[202] Mankiw (2015), pp. 77–83.
[203] Eichmann Report, ¶ 20, Schedules 6–12.

different drive types (4WD, RWD, or FWD); (c) different number of engine cylinders; (d) and different engine displacement variations. Focusing on these four characteristics in the AuctionNet data alone gives rise to over 200 different vehicle configurations for putative Class Vehicles.

136. Mr. Eichmann also ignores other characteristics that a consumer can choose from when buying one of the putative Class Vehicles. Different combinations of vehicle characteristics result in different prices paid by consumers, even for vehicles of the same MMY. For example, a sales brochure for the 2017 GMC Yukon shows three vehicle trims[204] (SLE, SLT, and Denali) and nine exterior colors[205] with a note to "[s]ee your GMC dealer for more exterior color details and availability."[206] The brochure also offers numerous additional options that a consumer can choose from (see Appendix H for an excerpt from this brochure).[207]

137. The fact that putative Class Vehicles can differ substantially even among vehicles of the same MMY (with corresponding variation in prices) is also illustrated by the experience of Named Plaintiffs. For example, Named Plaintiffs Flowers and Norvell both purchased a 2018 Chevrolet Colorado but chose different trims: Plaintiff Flowers chose the 2WD Work Truck, while Plaintiff Norvell chose the 4WD Z71.[208] Similarly, Named Plaintiffs Banks, Browne, Coulson, and Sinclair each purchased a 2017 GMC Sierra but chose very different vehicle features. In addition, although Plaintiffs Browne and Coulson both bought the SLT trim, their vehicles were still substantially differentiated in terms of many other features. Among other features, Plaintiff Browne's truck had a jet black/red interior and the "All Terrain" appearance package, while Plaintiff Coulson's truck had a cocoa/dune interior, glass

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[204] "A trim level (also sometimes referred to as a trim package) is a version of a vehicle model that comes equipped with a combination of features preselected by the manufacturer. Higher trim levels come with more/better features at a higher price, while an entry-level trim comes with just the basics at a lower overall cost. To differentiate trim levels, each package is given a moniker that follows the model name (example: the Chevrolet Corvette 3LT). You can often find this designation emblazoned on the vehicle's rear end, near where the model name is displayed." See "What Is a Vehicle Trim Level?" *The NewsWheel*, May 3, 2021, https://thenewswheel.com/what-is-a-vehicle-trim-level/.

[205] Mineral, Dark Sapphire Blue, Onyx Black, Quicksilver, Iridium, Crimson Red, Sparkling Silver, Summit White, and White Frost.

[206] "2017 Yukon Brochure," *GMC*, 2016, https://cdn.dealereprocess.org/cdn/brochures/gmc/2017-yukon.pdf, pp. 32–33.

[207] "2017 Yukon Brochure," *GMC*, 2016, https://cdn.dealereprocess.org/cdn/brochures/gmc/2017-yukon.pdf, pp. 31–37.

[208] MonroneyLabels.com, "2018 Chevrolet Colorado 2WD Crew Cab 128.3" Work Truck, VIN: 1GCGSBENXJ1107772 Label"; "Chevrolet Colorado 2018 VIN Lookup Result, VIN1GCGSBENXJ1107772," *VINDecoderZ.com*, https://www.vindecoderz.com/EN/check-lookup/1GCGSBENXJ1107772; MonroneyLabels.com, "2018 Chevrolet Colorado 4WD Crew Cab 128.3" Z71, VIN: 1GCGTDEN3J1248174 Label"; "Chevrolet Colorado 2018 VIN Lookup Result, VIN1GCGTDEN3J1248174," *VINDecoderZ.com*, https://www.vindecoderz.com/EN/check-lookup/1GCGTDEN3J1248174. VINs are found in Plaintiffs' Responses to Interrogatories. See Plaintiff James Norvell's Responses to GM's First Set of Interrogatories (Norvell Deposition Exhibit 231), Response to Interrogatory No. 1; Plaintiff Jimmy Flowers' Responses to GM's First Set of Interrogatories (Flowers Deposition Exhibit 338), Response to Interrogatory No. 1.

sliding sun roof, sensor indicator forward collision alert, lane keep assist, collision avoidance, and chrome bumpers.[209]

138. In summary, the fact that the putative Class Vehicles encompass such a wide variety of differentiated products even when considering the same MMY reflects different preferences for vehicle attributes, which will lead to variation in prices across putative Class Vehicles, including for vehicles that have the same observable characteristics in the data. In addition, the fact that different consumers have different preferences for different attributes renders implausible Mr. Eichmann's claim that a particular attribute will have the same impact on prices across all putative Class members or at least across all putative Class members who purchased the same MMY Class Vehicle.

B. Heterogeneity in Purchase Decision Making Contradicts any Assumption of Uniform Impact

139. Economic theory and practice posits that the wide variety of attributes displayed by differentiated products such as the putative Class Vehicles is intended to appeal to consumers' wide variety of preferences. In addition, consumers have widely varying differences in the information they have available at the time of purchase due to differences in their knowledge, experience, and information-gathering behavior such as online search or offline shopping behavior. The combination of differences in preferences and differences in information yield differences in demand which result in different consumers buying a variety of different products at a variety of different negotiated prices, including paying substantially different prices for the same or a similar vehicle.

140. Given differences in preferences and also differences in information, there is no reason to believe that all putative Class members would react uniformly to a change in information about a particular attribute, such as the alleged transmission issues. Mr. Eichmann ignores this important market reality and instead incorrectly assumes that all putative Class members (or at least all putative Class members who bought the same MMY) are similar and therefore would react in an identical fashion to the alleged transmission issues with a uniform reduction in the negotiated price they paid for their vehicles.

[209] MonroneyLabels.com, "2017 GMC Sierra 1500 4WD Crew Cab 143.5" SLT, VIN: 3GTU2NEC2HG258149 Label"; "GMC Sierra 2017 VIN Lookup Result, 3GTU2NEC2HG258149," VINDecoderZ.com, https://www.vindecoderz.com/EN/check-lookup/3GTU2NEC2HG258149; MonroneyLabels.com, "2017 GMC Sierra 1500 4WD Crew Cab 143.5" SLT, VIN: 3GTU2NEC5HG187237 Label"; "GMC Sierra 2017 VIN Lookup Result, 3GTU2NEC5HG187237," VINDecoderZ.com, https://www.vindecoderz.com/EN/check-lookup/3GTU2NEC5HG187237.

1. Each Putative Class Member Acquired a Class Vehicle Under Unique Conditions, Undermining Plaintiffs' Assumption of Uniform Impact

141. Mr. Eichmann assumes that his various per-vehicle damages estimates can be applied uniformly across either all putative Class Vehicles or across all putative Class Vehicles of the same MMY. In doing so, he ignores the variation described above regarding the reasons putative Class members acquired their vehicles and the implications of this variation for the prices paid by putative Class members.

a) Sales Channel

142. GM sells its vehicles through a large network of U.S. dealerships (4,232 as of January 31, 2021).[210] Different dealers provide different purchasing experiences to customers, influencing their perceptions of vehicle attributes in different ways, which ultimately impacts the price that consumers pay for a vehicle. Each dealer may provide different information about the putative Class Vehicles and competing vehicles, dealer product assortment may vary, and dealers may choose to stock or endorse different packages and options, all of which may have influenced the price paid by putative Class members. Plaintiff Banks testified that he purchased an extended warranty for his vehicle exclusively due to the salesperson's sales pitch.[211] Plaintiff Won indicated he intended to buy a Chevrolet Suburban until a salesman pointed him toward a Cadillac Escalade that was available at a discounted price.[212] Plaintiff Sierchio only seriously considered purchasing his vehicle after a salesman told him about a zero-percent financing promotion.[213] Plaintiff Freeman read brochures from his dealership that offered praise for the vehicle he ended up buying.[214] The importance of dealer interaction has also been documented in the economic literature. Specifically, researchers have found that consumers are able to obtain lower prices if dealers provide them with more information on promotional discounts.[215]

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[210] "USA Operations," *GMC*, https://www.gm.com/company/usa-operations.
[211] Banks Deposition, 44:17–20.
[212] Deposition of Wesley Won, August 9, 2021 ("Won Deposition"), 89:9–18.
[213] Deposition of Joseph Sierchio, August 11, 2021 ("Sierchio Deposition"), 88:15–20.
[214] Deposition of Richard Freeman, July 23 2021, 66:19–67:2.
[215] Busse, M., et al. (2006), "$1,000 Cash Back: The Pass-Through of Auto Manufacturer Promotions," *The American Economic Review* 96, no. 4, 1253–1270 at pp. 1268–1269.

b) Negotiations, Promotions, Incentives, and Discounts

143. Unlike many other goods, vehicle prices are a result of negotiations between buyers and sellers. The price is therefore affected by negotiating abilities of both parties, as well as other factors important to the parties. Dealers (sellers of new and many used vehicles) vary in their willingness to offer customer discounts, as Mr. Eichmann testified.[216] A dealer's willingness to negotiate can depend on many business considerations as has been well documented in the academic literature. These include the dealer's marginal costs,[217] the dealer's inventory,[218] the length of time a vehicle has been on the lot,[219] "resupply" times,[220] whether the purchaser is a first-time buyer,[221] the relative market power of the dealer,[222] and whether the sale occurs near the beginning or the end of a model year.[223] For example, a dealer may be more willing to discount a model with high inventory that needs to be moved off the lot. Furthermore, dealers have access to varying manufacturer promotions that they can choose to pass on to consumers at different rates, which can lead to additional price variation.[224] This is illustrated in the purchasing history of the Named Plaintiffs. For example, Plaintiff Dykshorn benefited from a promotion on models that were selling slowly at the GM dealership where he purchased his 2016 Chevrolet Camaro.[225] Plaintiff Speerly received a "family" discount that his dealership was offering to everybody at the time of his

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[216] Eichmann Deposition, 240:15–19 ("The idiosyncratic components associated with the dealer in the, the dealer's discounts they might be offering that day, the dealers' relationships that they might have with, with buyer, anything dealer specific….").
[217] *The Effect of State Entry Regulation on Retail Automobile Markets*, Bureau of Economics Staff Report to the Federal Trade Commission, January 1986, https://www.ftc.gov/sites/default/files/documents/reports/effect-state-entry-regulation-retail-automobile-markets/231955.pdf, pp. 20–23.
[218] Israeli, A., et al. (2021), "How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships," *Management Science: Articles in Advance*, 1–19 ("How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships") at p. 2 ("A dealership with high market power moving from a situation of inventory shortage to a median inventory level lowers transaction prices by about 0.57% ceteris paribus, corresponding to 32.5% of dealers' average per vehicle pro t margin or $145.6 on the average car."); Bennet, V. M. (2013), "Organization and Bargaining: Sales Process Choice at Auto Dealerships," *Management Science* 59, no. 9, 2003–2018 at p. 2005 ("Selling a car to a customer entails giving up the opportunity to sell that car to another customer who might have paid more. High average total inventory keeps such opportunity costs lower.").
[219] Chen, Y., et al. (2008), "A Simultaneous Model of Consumer Brand Choice and Negotiated Price," *Management Science* 54, no. 3, 538–549 at p. 545.
[220] How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships, pp. 16–17.
[221] Goldberg, P. K. (1996), "Dealer Price Discrimination in New Car Purchases: Evidence from the Consumer Expenditure Survey," *Journal of Political Economy* 104, no. 3, 622–654 at p. 626.
[222] How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships, p. 20.
[223] How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships, p. 15.
[224] Busse, M., et al. (2006), "$1,000 Cash Back: The Pass-Through of Auto Manufacturer Promotions," *The American Economic Review* 96, no. 4, 1253–1270 at p. 1268 ("Suppose that dealer cash allows dealers to adjust the mix they offer to customers of price discounts and other inducements such as advertising, additional sales effort, discounted service contracts, or aftermarket options which are 'thrown in' with the sale."), pp. 1260, 1263, Table 2 ("Consistent with our conjecture that there may be some deal-prone consumers, we find that the passthrough rate for customer cash is greater in weeks 1 and 2 than in all subsequent weeks, but only for new or increased customer cash promotions. When a customer cash promotion is new or an increase, pass-through is estimated to be 96 percent in the first two weeks in contrast to 75 to 80 percent for all subsequent weeks….").
[225] Deposition of Donald Dykshorn, July 27, 2021 ("Dykshorn Deposition"), 57:12–58:1.

purchase.[226] Plaintiff Drain received a discount for purchasing a "dealer demo."[227] Plaintiff Thomas, on the other hand, did not receive any discounts on his 2015 Chevrolet Corvette.[228] Mr. Eichmann admitted in his testimony that the discount off the sale price of the vehicles may affect damages to the buyer, and is therefore subject to individual inquiry.[229]

144. Similar to dealer behaviors, consumers' willingness to negotiate affect prices paid. Research has shown that many consumers negotiate over price with the seller,[230] with a large variation across consumers in the negotiating effort involved. For example, some consumers may negotiate more vigorously with a seller or shop across more dealerships or other sellers to obtain a higher discount for a vehicle.[231]

145. Named Plaintiffs' testimony provides illustrations of variability in consumer negotiating. Plaintiff Ponder, for example, works at an auto parts store where negotiating prices is a part of his day-to-day work.[232] Plaintiff Weeks spent 12 hours negotiating his vehicle purchase and testified that he believes he got a better price than other buyers.[233] Plaintiff Dykshorn negotiated for about an hour and was satisfied with the resulting price.[234] On the other hand, Plaintiff McQuade tried to negotiate without success,[235] and Plaintiff Flowers did not negotiate at all because he was "not familiar with the procedures of purchasing automobiles."[236]

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[226] Deposition of Dennis Speerly, August 16, 2021, 69:20–70:5.
[227] Deposition of Daniel Drain, September 7, 2021, 124:20–125:2.
[228] Deposition of Tait Thomas, July 19, 2021, 62:5–18.
[229] Eichmann Deposition, 89:15–23 ("Q. So that would be up to some individual inquiry about what happened with that -- how the vehicle changed hands and for what price it was sold? … A. If you currently own the vehicle and you acquired the vehicle at a discount, then you may not be harmed. If you currently own the vehicle but you did not acquire it at this discount, then you still hold the lemon.").
[230] Scott Morton, F., et al. (2011), "What Matters in a Price Negotiation: Evidence from the U.S. Auto Retailing Industry," *Quantitative Marketing and Economics* 9, no. 4, 365–402 ("What Matters in a Price Negotiation") at p. 366 ("Negotiation is a common way to determine transaction prices in a market economy. In the United States the prices of large consumer purchases such as houses and cars are negotiated."); Busse, M. R., and J. M. Silva-Risso (2010), "'One Discriminatory Rent' or 'Double Jeopardy': Multicomponent Negotiation for New Car Purchases," *The American Economic Review: Papers and Proceedings* 100, no. 2, 470–474 at p. 470 ("At most dealerships, both the price of the new car and the price of the trade-in are negotiated.").
[231] See What Matters in a Price Negotiation, p. 368 ("Finally, consumers which our proxy measures indicate have a low bargaining disutility pay on average $261 less than consumers with a high bargaining disutility.") (transaction prices are affected by multiple differing factors, including customers' information on dealer's invoice prices, search costs/behavior, and willingness to bargain); Zettelmeyer, F., et al. (2006), "How the Internet Lowers Prices: Evidence from Matched Survey and Automobile Transaction Data," *Journal of Marketing Research* 43, no. 2, 168–181 at pp. 178–179 ("We find that consumers who dislike bargaining pay 2.6% more than consumers who do not dislike it…"); "How to Negotiate a Great Deal," *Motorcycle & Powersports News,* June 11, 2013, https://www.motorcyclepowersportsnews.com/how-to-negotiate-a-great-deal/; Busse, M., et al. (2006), "$1,000 Cash Back: The Pass-Through of Auto Manufacturer Promotions," *The American Economic Review* 96, no. 4, 1253–1270.
[232] Ponder Deposition, 44:12–23.
[233] Deposition of Philip Weeks, July 28, 2021 ("Weeks Deposition"), 132:13–133:13.
[234] Dykshorn Deposition, 56:11–57:11.
[235] Deposition of Andre McQuade, July 30, 2021, 109:6–14.
[236] Flowers Deposition, 57:15–25.

c) Disclosures about Alleged Transmission Issues That Predate Purchase of Class Vehicles

146. To the extent the alleged transmission issues were publicly disclosed through service bulletins, customer complaints, online forum comments, vehicle reviews, and industry publications (as the Complaint and Mr. Eichmann claim[237]) at the time of purchase, vehicle prices would already reflect the potential effect (if any) of these alleged issues, and vehicle purchasers would not be injured. For example, Plaintiffs claim that the earlier "6L transmission on which the 8L transmission is based suffered from similar defects,"[238] which were the subject of customer complaints "going back as far as 2008."[239] Plaintiffs also claim that issues relating to the 8L transmission were covered in GM Service Bulletins as early as September 2014.[240] This predates sales of almost all putative Class Vehicles, and therefore indicates that most putative Class Vehicle prices incorporated some information on the alleged transmission issues.

147. Individualized inquiry would be necessary to establish how much information on the alleged transmission issues was in the public domain at the time of each putative Class member's purchase to determine whether a putative Class member was harmed. Purchasers of putative Class Vehicles who are fully informed about the alleged transmission issues would not be harmed to the same extent as purchasers with no knowledge, as the cost of repair or the cost of driving with the alleged transmission issues would be accounted for in their price negotiations.

148. Additional sources of heterogeneity in consumer purchasing decisions that undermine an assumption of common impact are discussed in Appendix I.

2. Mr. Eichmann Incorrectly Assumes that All Putative Class Members Would Place Significant Value on the Transmission Feature

149. Mr. Eichmann presents flawed evidence regarding the importance of transmission quality to consumers and ignores evidence that consumers in general, and the putative Class members in particular, vary in their reasons for purchasing their vehicles and the importance they place on their vehicles' transmission features.

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[237] Complaint, ¶¶ 106–354; Eichmann Report, ¶ 32 (NHTSA complaints), ¶ 33 (complaints on "Edmunds.com, Cars.com, CarComplaints.com, gmauthority.com, gminsidenews.com, gm-trucks.com, and others.").
[238] Complaint, ¶ 100.
[239] Complaint, ¶ 102.
[240] Complaint, ¶ 106.

150. Mr. Eichmann claims that "transmission issues influence consumer demand"[241] but the evidence Mr. Eichmann provides is flawed. For instance, he states that several studies he cites only address consumers' preferences for an automatic over manual transmission,[242] a preference that is not relevant to the alleged transmission issues in this litigation since all at-issue transmissions are automatic transmissions.[243] The customer complaints regarding transmission issues that Mr. Eichmann cites[244] also do not indicate that the National Highway Traffic Safety Administration ("NHTSA") considered them to be serious or excessive or represented uniform customer preferences for transmission. Mr. Eichmann claims that "since 2015, hundreds of complaints for the Class Vehicles" were submitted to the NHTSA.[245] However, neither Mr. Eichmann nor the Complaint mention any action NHTSA took on any of the complaints in six years of reviewing these complaints. This suggests that NHTSA did not find them sufficiently important to merit a safety recall or an in-depth investigation.

151. Furthermore, Mr. Eichmann merely references anecdotal examples of complaints related to the alleged transmission issues,[246] and he fails to provide any systematic analysis of how often transmission issues featured in customer complaints submitted by putative Class Vehicle owners during the putative Class Period. In particular, Mr. Eichmann ignores the fundamental question of whether the complaint rates (relative to the total number of vehicles) are higher for the putative Class Vehicles compared to benchmark vehicles. Every model of vehicle generates some amount of customer complaints; however, Mr. Eichmann fails to distinguish the complaint rate related to the alleged transmission issues for the putative Class Vehicles from the complaint rate that would have been expected absent the alleged transmission issues.

152. Only a few of the deposed Named Plaintiffs acknowledged that the vehicle's transmission played any role in their decision regarding which vehicle to purchase and how much to pay for it.[247] Further, even among those Named Plaintiffs who considered the vehicle's transmission, there were a wide variety of other vehicle attributes that also

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[241] Eichmann Report, Section III.C.
[242] See the studies cited in Eichmann Report, ¶¶ 26–28.
[243] Mr. Eichmann acknowledged in his deposition that these studies do not discuss consumers' willingness to pay for vehicles without the alleged transmission defects. Eichmann Deposition, 100:15–101:3 ("Q. ... [T]hose studies don't say anything about a consumer's willingness to pay for putative class vehicles without the alleged transmission defects, right? A. ... [W]hat I remember is that they similarly talked about the importance of transmission features and transmission quality to customers. That, that was the purpose of that issue. Q. Right. And, and not for the proposition that consumers' willingness to pay for putative class vehicles with the alleged transmission defects, correct? A. Right. I don't think it does.").
[244] Eichmann Report, ¶ 30.
[245] Eichmann Report, ¶ 32.
[246] Eichmann Report, ¶¶ 32–33.
[247] See, e.g., Banks Deposition, 49:21–50:9; Deposition of Donald Sicura, September 21, 2021, 87:4–11; Deposition of Richard Sullivan, August 18, 2021 ("Sullivan Deposition"), 86:17–25.

influenced Named Plaintiffs' purchase decisions. For example, Plaintiff Banks testified that he wanted an 8-speed transmission because it was advertised to provide better fuel economy[248] but that he also chose his vehicle for its V8, 6.2 liter engine and limited slip rear end.[249] Plaintiff Sullivan wanted an 8-speed transmission for its better feel, but he also cared about getting the Z51 package that included bigger wheels, bigger brakes, and an adjustable exhaust system.[250] On the other hand, Plaintiffs Troy and Kimberly Coulson admitted that the transmission did not influence their purchasing decision;[251] Mr. Coulson wanted the comfort of softer suspension for city driving,[252] and Ms. Coulson had a preference for a bigger vehicle to drive in snowy conditions in Minnesota as well as an American-made vehicle with a familiar product history.[253] The eight-speed transmission was "not at all" important to Plaintiff Sinclair's choice either;[254] he wanted "luxury" and "to be more comfortable,"[255] and paid some attention to safety ratings and fuel efficiency.[256] Similarly, Plaintiff Novell was interested in paint colors and wheel rims and not in the vehicle's transmission.[257]

X. There Is Considerable Price Variation Among Putative Class Vehicles, Which Undermines Mr. Eichmann's Assumption of a Uniform Impact on Putative Class Members

A. Dealer Invoice Prices of New Putative Class Vehicles Show Considerable Variation Even for Similar Vehicles

153. The factors discussed in Sections IX.A and IX.B contribute to significant variation in the transaction prices paid by putative Class members even for very similar vehicles. For example, Plaintiffs Browne, Coulson, and Sinclair paid different prices for their 2017 GMC Sierra SLT vehicles: $37,400, $49,299, and $45,526, respectively.[258] Plaintiffs Sinclair and Coulson paid different prices even though they purchased the vehicles only a few weeks apart

[248] Banks Deposition, 49:21–50:6 ("Having the extra two gears was supposed to help with fuel economy, especially on the highway, so that's -- that was one of the big selling points for me.").
[249] Banks Deposition, 50:10–17 ("Q. Were there any other factors that influenced your decision other than the transmission? A. Yeah, the bigger V8 engine, the 6.2 liter engine. Q. Anything else? A. Those were the primary that made up the majority of the drivers. I think one other thing is the limited slip rear end…").
[250] Sullivan Deposition, 82:23–83:14, 86:7–25 ("I wanted a Corvette that was an automatic transmission, was not a convertible, and it was a Z51 package, which is an option package").
[251] Deposition of Troy Coulson, July 26, 2021 ("T. Coulson Deposition"), 63:25–64:7 ("Q. Did the type of transmission influence your decision to purchase the Sierra? A. No. No. At the time, no."); Deposition of Kimberly Coulson, July 26, 2021 ("K. Coulson Deposition"), 24:4–12 ("I'm by no means, you know, an expert in the area of transmissions or all of this fancy technology that happens").
[252] T. Coulson Deposition, 58:15–22, 67:4–15 ("They're a little softer suspension system in – in them and I drive mostly pavement, so I was kind of drifting towards the Chevy just for the ride.").
[253] K. Coulson Deposition, 43:25–45:1.
[254] Deposition of Jason Sinclair, August 13, 2021 ("Sinclair Deposition"), 176:13–23.
[255] Sinclair Deposition, 125:11–16.
[256] Sinclair Deposition, 57:10–15.
[257] Deposition of James Norvell, August 3, 2021, 69:7–10, 70:22–25.
[258] See Exhibit 7.

155. This large variation in dealer invoice prices reflects the fact, discussed in Section IX.A, that within vehicles of the same MMY, consumers can choose hundreds of combinations of options and packages to customize their vehicles. Crucially, the prices that consumers actually paid would exhibit even more variation because of the consumer and dealer specific factors noted above which do not apply to invoice prices.

156. Exhibit 10 summarizes dealer invoice price variation across all MMY combinations represented among the putative Class Vehicles. In this exhibit, I summarize the extent of price variation as the percent difference between the highest and lowest invoice price. For each MMY combination, the price variation measure is calculated for just one month of sales—December of the release year (that is, the year before the model year).[261] As Exhibit 10 demonstrates, for every MMY combination, considerable variation in dealer invoice prices remains even if one only examines purchases that occurred within the same month.

B. Transaction Prices of Used Putative Class Vehicles Show Considerable Variation Even for Similar Vehicles

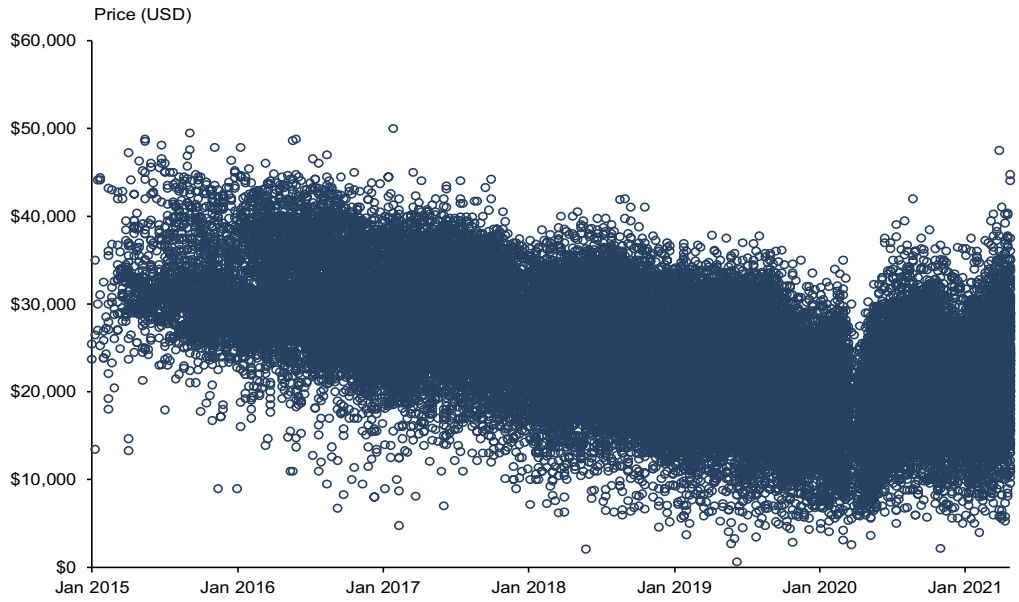
157. As discussed in Section IX.B.1, even more factors cause variation in prices of used vehicles than in new ones. I show this variation using the AuctionNet data on transaction prices of used vehicles sold at auctions that Mr. Eichmann uses in his analysis.[262] These prices are for wholesale transactions,[263] that is, predominantly sales to automotive dealers rather than individual consumers. As a result, similar to invoice prices, these prices also understate the full extent of variation in final retail prices due to the seller and buyer behavior discussed earlier but not observed in these data. Figure 7 presents a scatter plot of these data for the 2015 Chevrolet Silverado 1500—the most popular MMY combination according to these data. Each dot in this figure represents a different used vehicle of the same MMY sold at a particular point of time marked on the horizontal axis.

[261] December is chosen because it has the highest number of invoices in the data across all Relevant Models and Model Years.

[262] Eichmann Report, ¶ 65 ("actual marketplace sales data from JD Power. The JD Power data includes 136 unique vehicle models and over 5.5 million transactions. Each transaction represents a used vehicle sold in a given week between January 2015 and April 2021. In addition to make, model, model year, and technical specifications of sold vehicles, the data includes mileage, geographical location, market segment and vehicle type. See JD Power Data, Data Dictionary, 'AuctionNet Enhanced File Layouts.pdf'").

[263] "AuctionNet Market Report: Access to Recent Wholesale Transaction Data," *J.D. Power*, https://www.jdpowervalues.com/get-values/auctionnet-market-report ("recent wholesale transaction data representing 80% of the nation's auction activity. In joint partnership with the National Auto Auction Association (NAAA), the AuctionNet Data Report features more than 500,000 new records added each month representing more than 80% of the nation's auction activity…. Actual sales transactions from all Manheim and ADESA, as well as participating ABC, ServNet and large independent auctions for all 20 AuctionNet regions.").

Figure 7. Transaction Prices of Used 2015 Chevrolet Silverado 1500 Vehicles

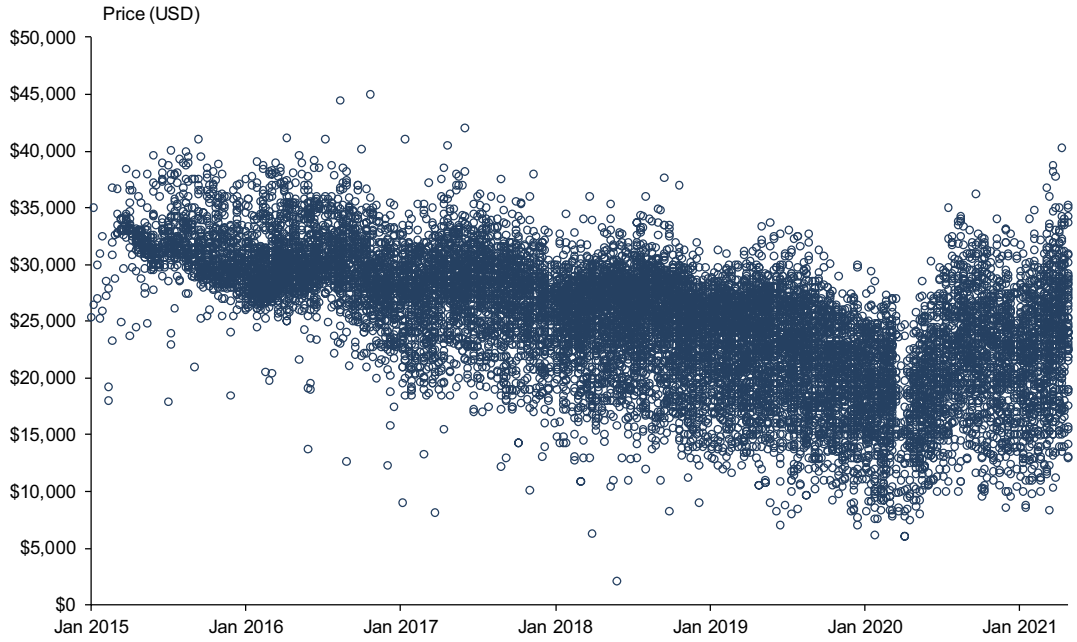


Source: Eichmann Report and Backup Materials

158. As evident in the figure, there is substantial heterogeneity in the transaction prices of used vehicles of the same MMY. The price of a used 2015 Chevrolet Silverado 1500 ranged from $600 to $50,000 in the period since January 2015. Even during the first year after this model year was released (2015), the price for the vehicle in a used condition varied from $9,000 to $49,500. Figure 8 shows that the heterogeneity in transaction prices persists even when comparing the prices of Relevant Model and Model Year vehicles which are the same not only with respect to their model and model year but also with respect to a number of other characteristics observable in the data.[264] Figure 8 illustrates this heterogeneity for used 2015 Chevrolet Silverado 1500s that all had a Crew Cab body type, four wheel drive, 5.3 liter engine displacement, and MSRP of $40,320. Transaction prices for these vehicles varied from $2,100 to $45,000.

[264] I selected for this analysis characteristics that have standardized values in the AuctionNet data used by Mr. Eichmann. Other vehicle characteristics included in these data (trim, exterior and interior colors) appear to be a result of manual entry in ad-hoc format (that is, the same attribute may be expressed in many different ways, and is therefore difficult to use in programmatic analysis).

Figure 8. Transaction Prices of Used 2015 Chevrolet Silverado 1500 with Crew Cab Body, 4WD Drive, 5.3 Liter Engine Displacement, and MSRP of $40,320



Source: Eichmann Report and Backup Materials

159. Exhibit 11 further narrows down characteristics of the vehicles included in Figure 8 to those with the odometer readings between 10,000 and 15,000 miles at the time of resale. I specifically focus on this range in odometer readings since it is the 5,000-mile range with the highest number of resale transactions for this vehicle. Transaction prices of these vehicles varied from $18,500 to $42,000, demonstrating heterogeneity in prices of used transactions of Relevant Model and Model Year vehicles even for vehicles with similar characteristics at the time of resale. As Exhibit 12 demonstrates, the price variation shown in Figure 8 also persists even if one further limits the analysis to used vehicles sold in the same state (*e.g.*, Texas).

160. In sum, real-world market data show that prices for putative Class Vehicles can vary substantially, even for the same model, model year, geographic region, and comparable combination of options. This variation is consistent with economic research that has extensively documented the presence of price dispersion in markets for heterogeneous consumer products.[265] It is also consistent with literature on the pricing of motor vehicles which has documented significant price dispersion and individual level factors that create this

[265] See, for example, Baye, M. R., et al. (2006), "Persistent Price Dispersion in Online Markets," in *The New Economy and Beyond: Past, Present and Future*, D. W. Jansen ed., Northampton, MA: Edward Elgar Publishing, Inc., 122–143; Baye, M. R., et al. (2004), "Price Dispersion in the Small and in the Large: Evidence from an Internet Price Comparison Site," *The Journal of Industrial Economics* 52, no. 4, 463–496.

variation, such as the ability and desire to engage in price negotiation.[266] This price variation establishes that there are individual characteristics specific to each transaction that determine the transaction price of a given putative Class Vehicle, which are difficult to capture by a common model that would apply to all putative Class Vehicles or even all putative Class Vehicles of the same MMY. Thus, any damages analysis needs to recognize that vehicles are differentiated products with heterogeneous prices, which Mr. Eichmann's analyses fail to do. In other words, any assessment of the effect of the challenged conduct on consumer prices would require individualized inquiry.

Lorin M. Hitt, Ph. D.

[266] See What Matters in a Price Negotiation.